

## Document Log Item

Addressing	
<b>From</b>	<b>To</b>
George Robin/R9/USEPA/US	Adam Freedman/R9/USEPA/US@EPA Adam Freedman/R9/USEPA/US
<b>CC</b>	<b>BCC</b>
R9-Deep	
<b>Description</b> Form Used: Reply	
<b>Subject</b>	<b>Date/Time</b>
Re: Fw: CO2 Injection Risk Assessment	01/22/2010 03:20 PM
<b># of Attachments</b>	<b>Total Bytes</b>
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Body

## Document Body

Deliberative Ex. (b)(5)

George

Adam Freedman---01/22/2010 02:00:32 PM---

Deliberative Ex. (b)(5)

From: Adam Freedman/R9/USEPA/US  
To: R9-Deep  
Date: 01/22/2010 02:00 PM  
Subject: Fw: CO2 Injection Risk Assessment

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Deliberative Ex. (b)(5)

[REDACTED]

-Adam

----- Forwarded by Adam Freedman/R9/USEPA/US on 01/22/2010 01:55 PM -----

From: "Chan, Victor M." <VMChan@SolanoCounty.com>  
To: Bruce Kobelski/DC/USEPA/US@EPA  
Cc: Adam Freedman/R9/USEPA/US@EPA, David Albright/R9/USEPA/US@EPA, Suzanne Kelly/DC/USEPA/US@EPA, "Ferrario, Nedzlene N." <NNFerrario@SolanoCounty.com>, "Leland, James H." <JHLeland@SolanoCounty.com>, "Kaltreider, Misty C." <MKaltreider@solanocounty.com>, "Bell, Jeffery" <JBell@solanocounty.com>, "Schram, Stanley J." <SJSchram@SolanoCounty.com>  
Date: 01/22/2010 12:43 PM  
Subject: CO2 Injection Risk Assessment

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Bruce

I work with Ned Ferrario at Solano County and so I am glad you are working with the development of a quantitative risk assessment for the CO2 injection industry.

Solano County Planning Division and Solano County Environmental Health Division are developing strategies to deal with risks such mandating a seismic study to address the

potential of induced seismic activity.

Deliberative Ex. (b)(5)

Hopefully you can provide more assistance.

One risk is terrorism because I completed a tour in Afghanistan with the US Army Corps of Engineers in 2006.

Deliberative Ex. (b)(5)

I was told by Shell Oil that the anti-blowback protection is designed into the well's "injection tree" as check valve branches which are located above the well. However, if a terrorist were to drive a truck and shear off the injection tree he would take out these check valves. This may release all of the contained underground CO2 all at once and potentially cause wide spread asphyxiation.

Deliberative Ex. (b)(5)

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While a terrorist act is unlikely in Solano County, I have an uneasy feeling that this industry is moving faster than the regulatory agencies can develop all of the rules for risk assessment.

Deliberative Ex. (b)(5)

The engineering solution is to install a “protected check valve” or “install protective infrastructure around the well”.

Deliberative Ex. (b)(5)

However, I have yet to see these design features as regulatory requirements. Therefore, I see this as a vulnerability that has not been addressed. When this project is presented at a local public meeting in Solano County, I need a good answer if this specific subject comes up.

Deliberative Ex. (b)(5)

My question: Has the US EPA addressed this specific risk?

Deliberative Ex. (b)(5)

Deliberative Ex. (b)(5)

**Victor M Chan, PE, BCEE**  
**Solano County Civil / Environmental Engineer**  
**Board Certified Environmental Engineer [www.aaee.net](http://www.aaee.net)**  
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